CHANGING WHAT'S POSSIBLE

# Natural Gas Sensing and Mitigation Workshop: Introduction to ARPA-E

Dr. Eric Rohlfing, Acting Deputy Director for Technology

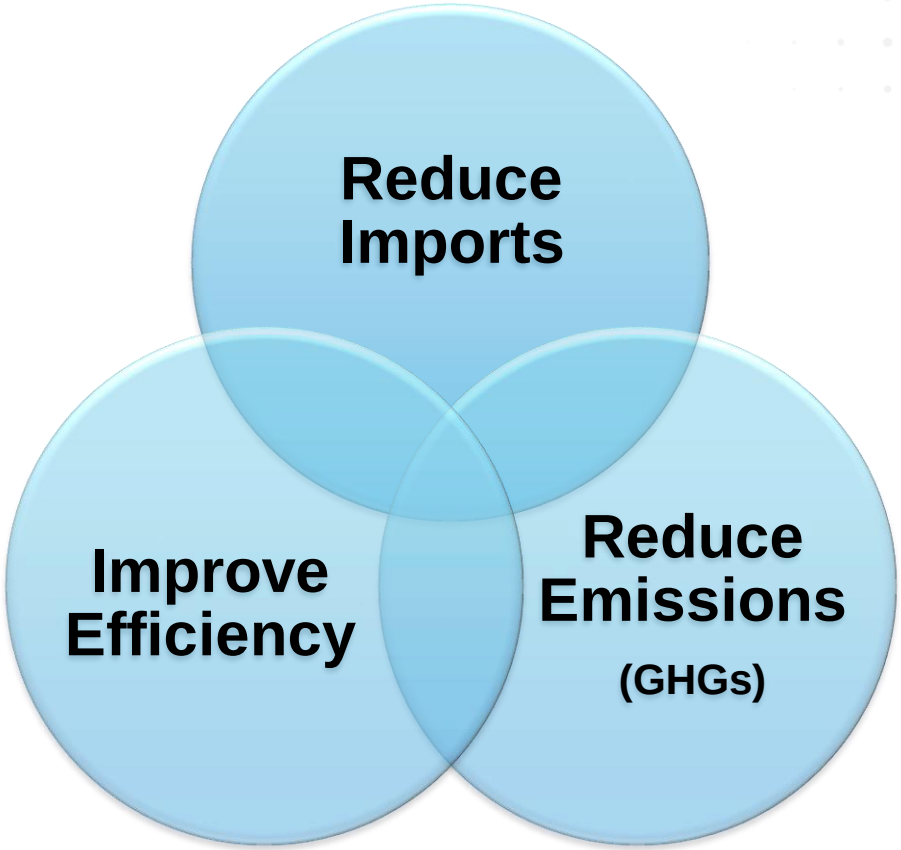
April 23-24, 2013

# The ARPA-E Mission

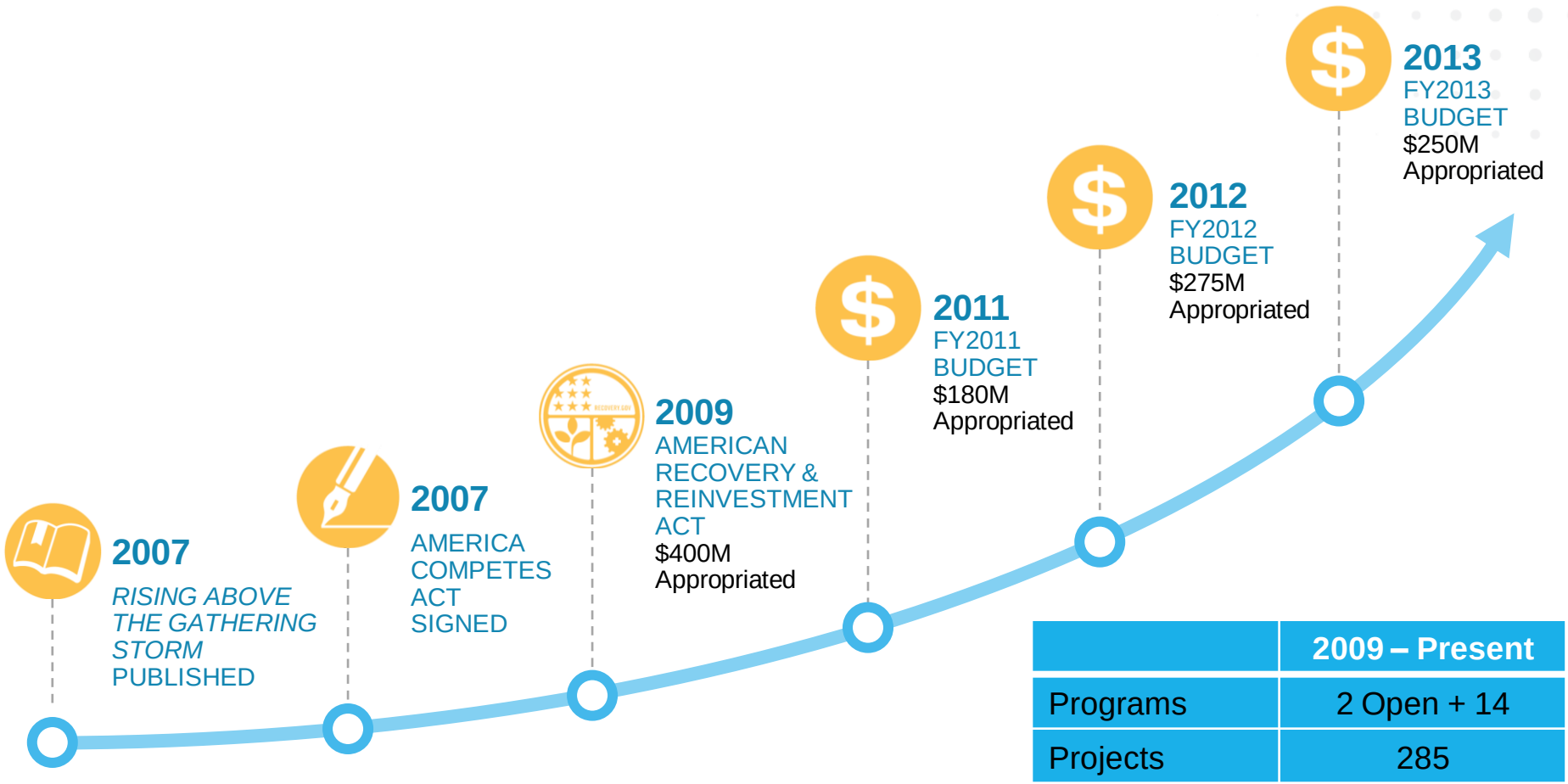
**Catalyze and support the development of transformational, high-impact energy technologies**

## Ensure America's

- National Security
- Economic Security
- Energy Security
- Technological Lead

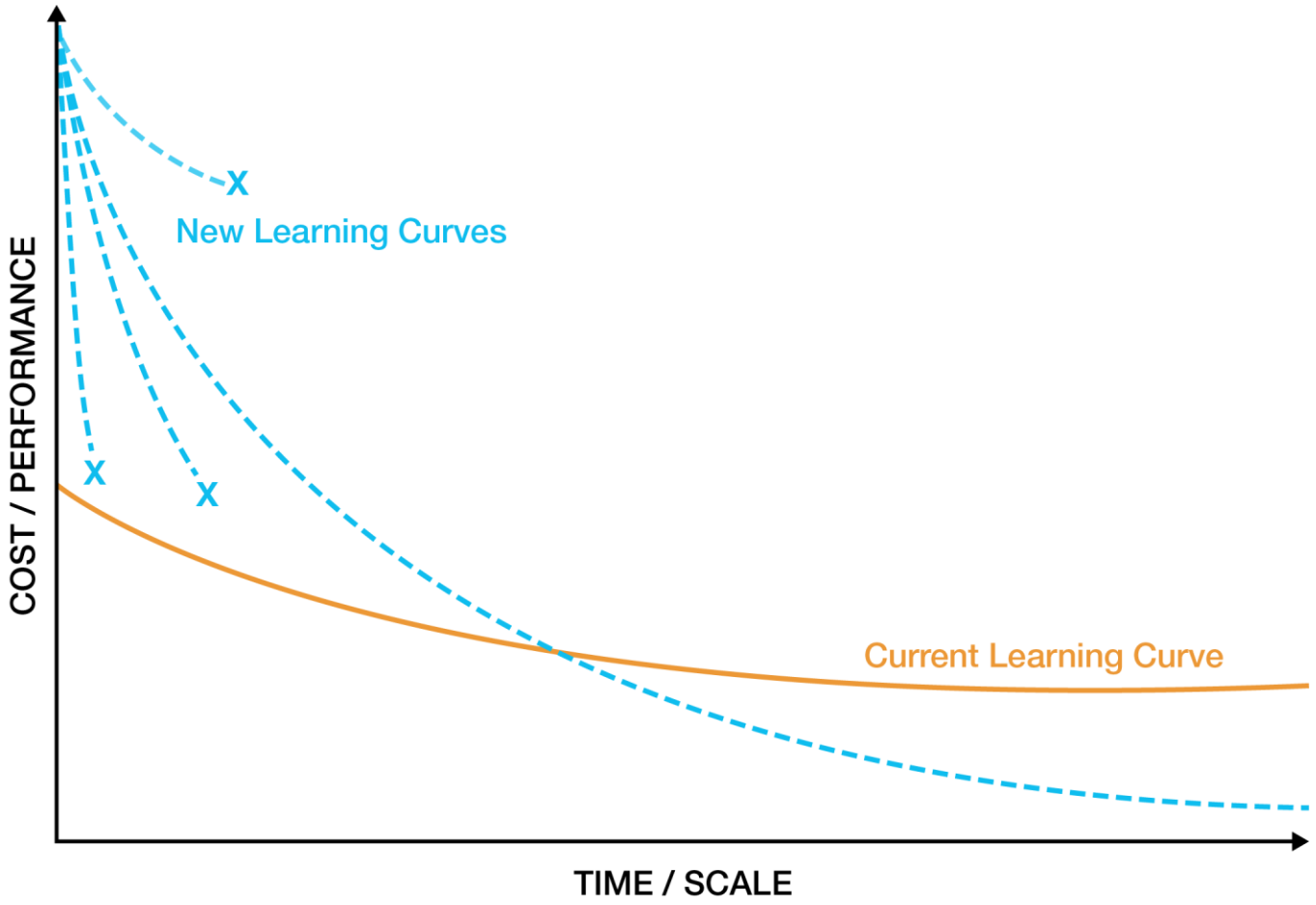


# A Brief History of ARPA-E




| | 2009 – Present |
|---|---|
| Programs | 2 Open + 14 |
| Projects | 285 |
| Dollars (MM) | $770 |

# Creating New Learning Curves



# What Makes an ARPA-E Project?

## IMPACT

- High impact on ARPA-E mission areas
- Credible path to market
- Large commercial application

## TRANSFORM

- Challenges what is possible
- Disrupts existing learning curves
- Leaps beyond today's technologies

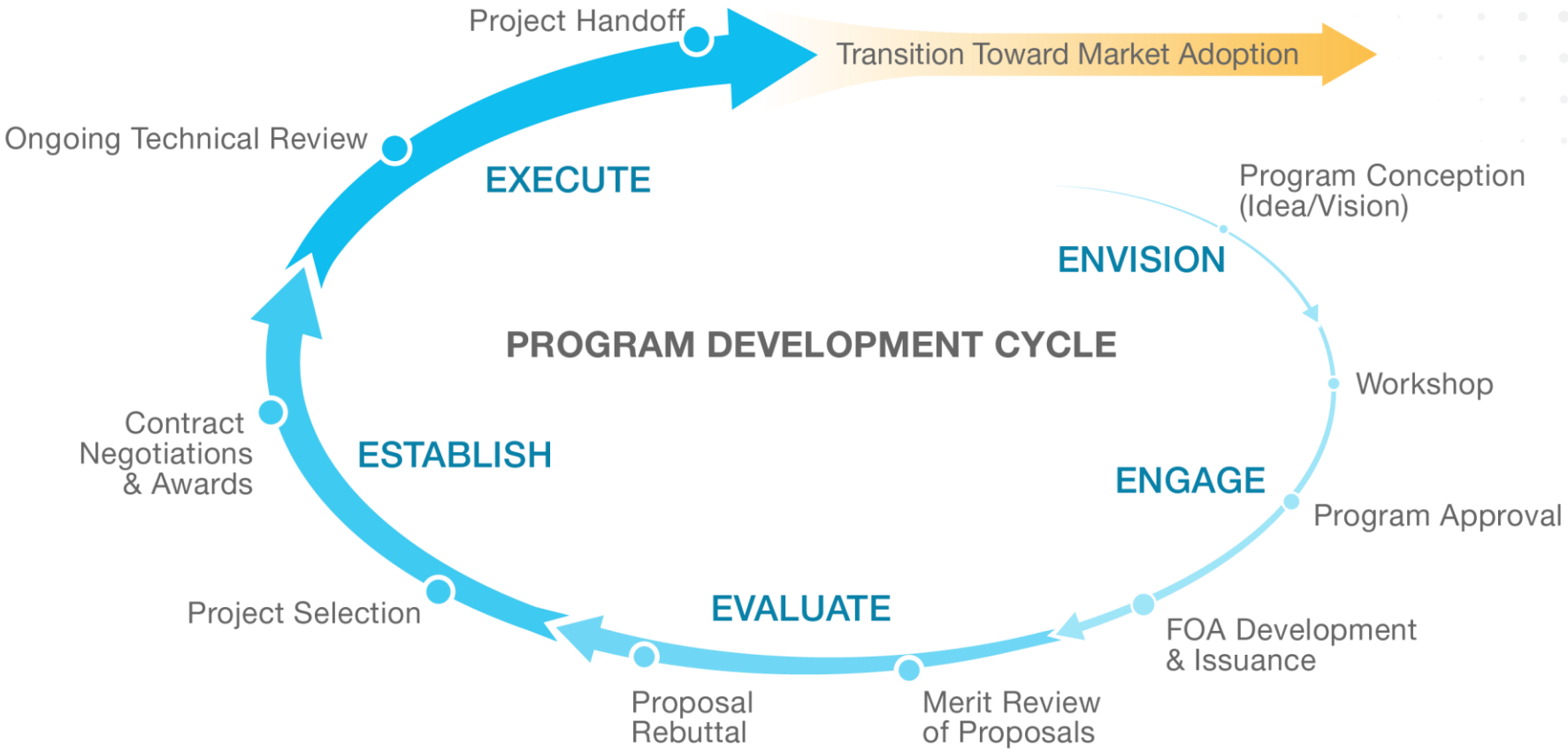
## BRIDGE

- Translates science into breakthrough technology
- Not researched or funded elsewhere
- Catalyzes new interest and investment

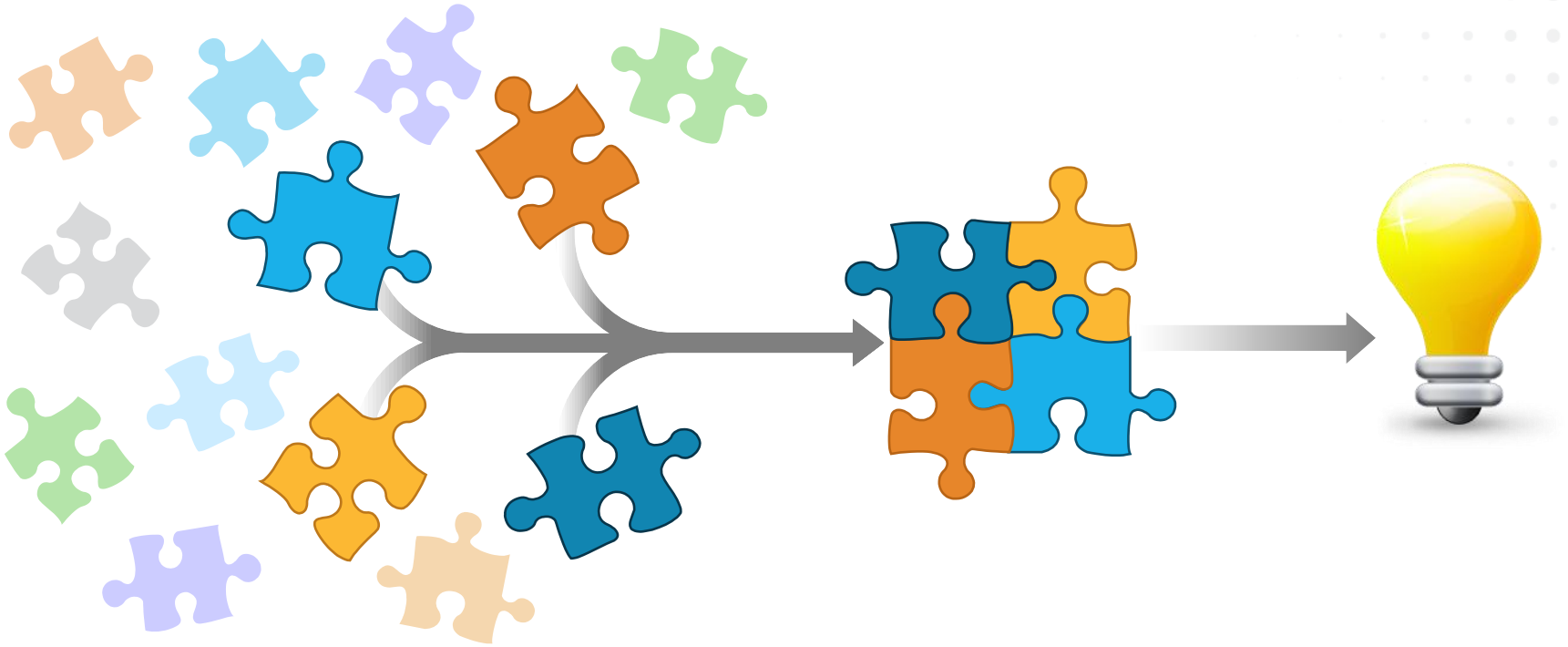
## TEAM

- Comprised of best-in-class people
- Cross-disciplinary skill sets
- Translation oriented

# Technology Acceleration Model



# How does ARPA-E Enable Transformations?



**Science & Technology Knowledgebase**

**Unique Project Team**

**Disruptive New Technologies**

ARPA-E teams come from a multiple segments of the S&T base to attack problems in entirely new ways

# Focused Programs

**TRANSPORTATION ENERGY TECHNOLOGIES**

BEEST

PETRO

Electrofuels

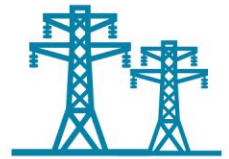
MOVE

HEATS

AMPED

REACT

SBIR/STTR



**STATIONARY ENERGY TECHNOLOGIES**

BEET-IT

Solar ADEPT

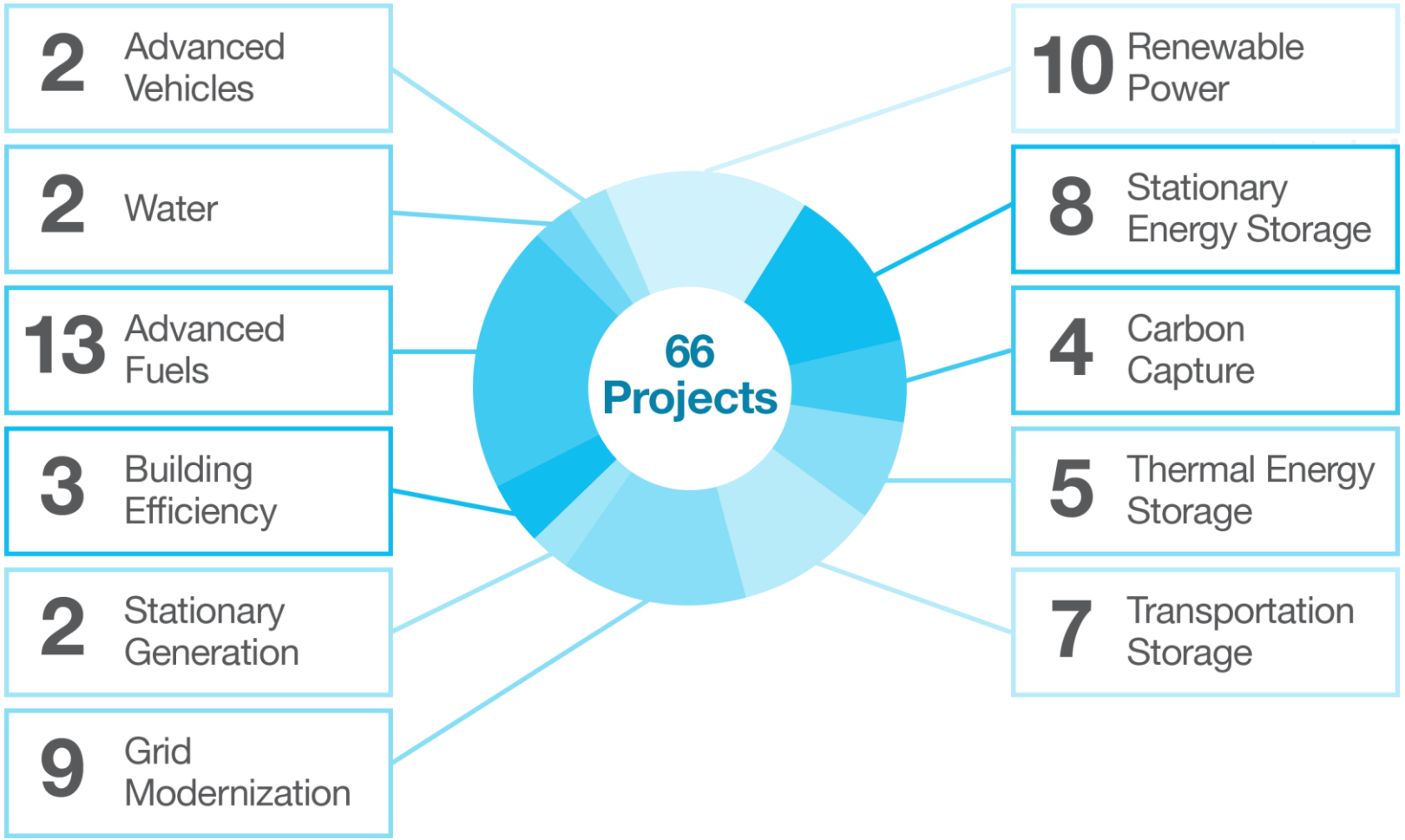
IMPACCT

GENI

GRIDS

ADEPT

# OPEN 2012: 66 Projects, 24 States, 11 Areas



# Measuring ARPA-E's Success

## MOVING TECHNOLOGY TOWARD MARKET

- Partnerships with Other Government Agencies
- New Company Formation
- Established Company Partnerships
- New Communities

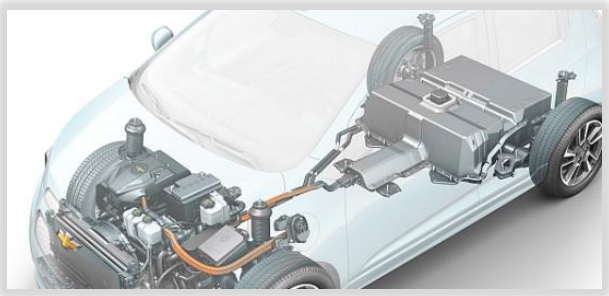
## BREAKTHROUGH ACHIEVEMENTS

- Technology breakthroughs
- Patents
- Publications

## OPERATIONAL EXCELLENCE

- Expedited program development and project selection
- Aggressive performance metrics

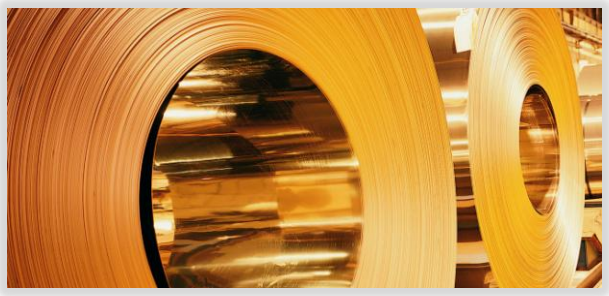
# New Funding Opportunities



## RANGE

Robust Affordable Next Generation EV-storage

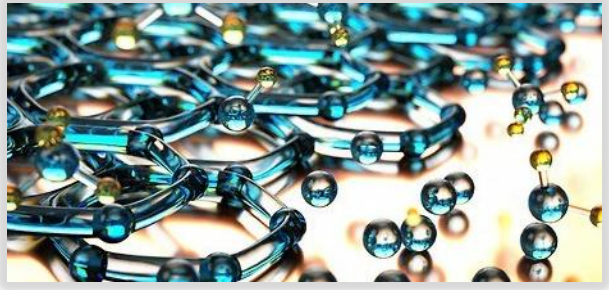
*Release Date*: 2/19/2013



## METALS

Modern Electro/Thermochemical Advances in Light-metal Systems

*Release Date*: 3/20/2013



## REMOTE

Reducing Emissions Using Methanotrophic Organisms for Transportation Energy

*Release Date*: 3/15/2013

# Program Directors

***ARPA-E is always recruiting new Program Directors, who serve 3-year terms***

## ROLES & RESPONSIBILITIES

### Program development

- Perform technical deep dive soliciting input from multiple stakeholders in the R&D community
- Present & defend program concept in climate of constructive criticism

### Active project management

- Actively manage portfolio projects from merit reviews through project completion
- Extensive "hands-on" work with awardees

### Thought leadership

- Represent ARPA-E as a thought leader in the program area

## ATTRIBUTES

- R&D experience; intellectual integrity & flexibility; technical breadth; commitment to energy; communication skills; leadership; and team management
- *Confidence, but not arrogance*

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***If you are interested please contact me or a current ARPA-E Program Director***

U.S. DEPARTMENT OF
ENERGY

www.arpa-e.energy.gov